# 手持式系列遥控器使用说明书V2.0

## Handheld Remote Control User Manual V2.0

(适用于手持式**A**系列和**W**系列)

**(ApplicabletohandheldAseriesandWseries)**

欢迎使用WOCH工业遥控器产品，我们的每套产品在出厂前都经过了严格的各项测试，请放心使用。Welcome to use industrial remote control products. Each of our products has undergone strict testing before leaving the factory. Please rest assured to use it.

在安装使用此产品前，请耐心阅读此说明书并清点包装箱内的各种配件和随机图纸，以免安装时电压不对，烧毁接收器。Before installing and using this product, please patiently read this manual and count the various accessories and accompanying drawings inside the packaging box to avoid incorrect voltage during installation and burning the receiver.

我们是一家致力于工业无线遥控系统研发，生产，销售为一体的高新技术企业，我们的客户分布在很多行业，起重机设备，工程机械，建筑设备，高空作业设备，工程特种车辆，农林装备等普通行业，以及市政消防，矿山开采，隧道建设，港口海工，石油开采等特殊行业，我们产品都有成熟的客户使用案例；我们产品质量稳定可靠，并通过欧盟 CE 以及美国联邦通讯委员会FCC 认证，目前我们产品出口到全球许多国家和地区。We are a high-tech enterprise dedicated to the research and development, production, and sales of industrial radio remote control systems. Our customers are distributed in many industries, including crane equipment, construction machinery, construction equipment, high-altitude operation equipment, engineering special vehicles, agricultural and forestry equipment, as well as special industries such as municipal fire protection, mining, tunnel construction, port and marine engineering, and oil extraction, our products have mature customer using cases; our products are of stable and reliable quality, and have passed EU CE and FCC certification. Currently, our products are exported to many countries and regions around the world.

WOCH工业遥控器产品有手持式遥控器，主要应用于远程控制起重机以及其他简单的设备，肩带式遥控器主要应用于远程控制较复杂的设备，如大吨位起重机，泵车，高空作业车，移动 AGV，盾构掘进机，消防车，移动破碎机等。共驰 R 系列接收器支持纯 IO 输出，模拟量输出，RS485 总线输出，RS232 总线输出，Can 总线输出，Profibus-DP 总线输出，PWM 输出，Canopen 总线输出，ProfiNet 总线输出，DeviceNet 总线输出，J1939 输出等。

our products include handheld remote controllers,
mainly used for remote control of cranes and other simple equipment. Shoulder belt remote controllers are mainly used for remote control of more complex equipment, such as large tonnage cranes, pump trucks, aerial work vehicles, mobile AGVs, shield tunneling machines, fire trucks, mobile crushers, etc. R series receiver supports IO output, analog output, RS485 bus output, RS232 bus output, Canbus output, Profibus DP output, PWM output, Canopen output, ProfiNet output, DeviceNet output, J1939 output, etc.

## 1. 发射器参数　　型号： A21,A22,A31,A32,A41,A42,A51,A52,W31,W32,W41,W42 等

Transmitter H series parameter models: A21, A22, A31, A32, A41, A42, A51, A52, W31,W32,W41,W42 etc

Emergency stop switch: mushroom head type, in accordance with EN13849-1 standard

Protection level: IP65

Operating element: 4，8，12 double speed self reset buttons

Key identification: arrows, text, symbols, or customer defined

Smart key: iKey (remote control keys of the same model are interchangeable)

尺寸：130*60*40mm(4 按键)

190*60*40mm(8按键)

250*60*40mm（12按键)

按键：4个/8个/12个单速/双速自复位按键

材质：PA6+30%GF

重量：120g-360g

天线：内置

**启动方式：旋起急停，按启动按键 2 秒开机（A 系列短按，再长按启动按键开机，请参考随机图纸）**

急停开关：蘑菇头式，符合 EN13849-1 标准

防护等级：IP65

操作元件：4 个，8 个或 12 个双速自复位按键

按键标识：箭头，文字，符号或者客户自定义

智能钥匙： iKey（相同型号遥控器钥匙互相通用）

Size: 130 * 60 * 40mm (4 buttons)

190 * 60 * 40mm (8 buttons)

250 * 60 * 40mm (12 buttons)

Buttons: 4/8/12 single speed/dual speed self reset buttons

Material: PA6+30%GF

Weight: 120g-360g

Antenna: inside

**Start method: Rotate the emergency stop button and press the start button for 2 seconds (A series short+long press start button, please refer to drawings attached).**

控制距离：≥150 米（空旷环境，发射器和接收器均离地 1 米标准测试；

工作温度范围：-40℃~+80℃

中心频率范围：433-434MHz;

LED 指示灯：操作指示/电池状态

Continuous operation time: more than 500 hours (2 AA batteries used at room temperature)

Typical applications: single and double beam cranes, European cranes, ground pumps, vehicle

按键寿命：≥200 万次
电源供应：A系列：2 节 5 号电池
W 系列：3 节 5 号电池
连续操作时间：500 小时以上（2 节五号正品南孚电池常温下使用）
典型应用：单双梁起重机，欧式起重机，地泵，车载泵及其他设备；
APO（自动关机）：标配 30 分钟

Control distance: ≥ 150 meters (in an open environment, the transmitter and receiver are both tested at a standard distance of 1 meter from the ground);

Working temperature range: -40 ℃~+80 ℃
Center frequency range: 433-434MHz;

LED indicator light: operation indicator/battery status

Key lifespan: ≥ 2 million times

mounted pumps, and other equipment;

APO (automatic shutdown): Standard configuration for 30 minutes

Power supply: A series：2 piece AA batteries

Power supply: W series：3 piece AA batteries

## 2. R系列接收器参数　　型号：R10； R15； R20

R-series receiver parameter　　Model: R10; R15;R20

Temperature range: -40 ℃~+80 ℃
Frequency range: 433-434 MHz
Relay capacity: 10A/250VAC
Relay life: greater than 5 million times
LED indicator light: operation status indicator/RF signal
Antenna: External (standard with soft antenna, other antennas require special customization)
Shell material/protection level: IP65

开关量输出：10路,15路,20路继电器
输出接口：重载连接器、电缆可选
尺寸：220×120×75mm
重量：1000g
外壳材质：工程塑料
防护等级：IP65
温度范围： -25℃~+70℃
频率范围： 433-434 MHz
继电器容量： 10A/250VAC
继电器寿命：大于 500 万次
LED指示灯：操作状态指示/射频信号
天线：外置(标配软天线，其他天线要求需要特殊定制)
外壳材质/防护等级：工程塑料/IP65
继电器容量：10A/250VAC
Relay output: 10, 15, 20 relays
Output interface: heavy-duty connector, cable optional
Size: 220 × 120× 75mm
Weight: 1000g
Shell material: ABS
Protection level: IP65
Relay capacity: 10A/250VAC

适**配发射器Transmitter**:
A21四个按键单速-A21 4 single button
A22四个按键双速-A22 4 double button
A31,A31八个按键单速-A31 8 single button
A32,W32八个按键双速-A32 8 double button
A41,W41十个按键单速-A41 10 single button
A42,W42十个按键双速-A42 10 double button
A51十二个按键单速-A51 12 single button
A52十二个按键双速-A52 12 double button

**选配电源Receiver Power:**

9-36VDC　　30-420 VAC

## 3. 遥控系统安装操作

Installationandoperationofremotecontrolsystem

3.1 安装说明

Installation instructions

手持式系列遥控器可以和各种规格型号的起重机或者设备配合使用

Handheld series remote control can be used in conjunction with various specifications and models of cranes or equipment

3.2 接收器安装注意事项

Remark for receiver installation

攀爬起重机时，请注意安全。安装前，请务必关掉起重机总电源，严禁带电安装。

当接收器附近有变频器时，接收器距离变频器必须大于 2 米，或将接收器装在屏蔽金属盒内，引出天线的距离尽量远离变频器。接收器天线尽量安装在较高，并空旷的地方，以免影响接收信号。

Please pay attention to safety when climbing the crane.Before installation, please be sure to turn off the main power supply of the crane, and live installation is strictly prohibited.When there is a frequency converter near the receiver, the distance between the receiver and the frequency converter must be greater than 2 meters, or the receiver should be installed in a shielded metal box, and the distance from the antenna should be as far away as possible from the frequency converter.The receiver antenna should be installed as high and open as possible to avoid affecting the reception signal.

3.3 发射器的安装

Installation of transmitter

电池的安装：安装前请检查电池的电量，避免电压不足导致无法开机

Battery installation: Please check the battery level before installation to avoid insufficient voltage that may cause the machine to fail to start.

## 4. 技术支持维修与故障说明

Technical Support Maintenance and Fault Description

WOCH工业遥控器每次出货产品为一套发射器对应一套接收器，其频率和地址码均设置对应关系，若客户采购两个发射器同时控制一个接收器，将可能出现两个操作工同时控制一台设备的情况，导致设备故障或出现不可预知的状况，此后果将由客户承担。

Please be noted that each transmitter and receiver is matched one to one and the frequency and address code are preset correspondingly ,If the customer purchases two transmitters to control one receiver at the same time, there may be a situation where two operators control one device at the same time, resulting in equipment failure or unpredictable conditions. The consequences will be borne by the customer.

4.1 维护保养

1. 共驰遥控系统内高频模块部件，享受标准工作时 1 年免费维修（非人为损坏）
2. 对于其他部件提供一年保修，终身保修的服务。

4.1 Maintenance

1. The high-frequency module components in the Dechi remote control system enjoy one year of free maintenance during standard operating hours (non human damage)
2. Provide one-year and lifetime warranty services for other components.

4.2 常见故障判断及解决方案 Common fault issue and solutions

| 出现故障 Malfunction | 可能原因Possible reason | 解决措施Solution |
|---|---|---|
| 发射器无任何反应 Transmitter does not respond | 无供电电源或电量不足 No power supply or low battery | 检查电池电量是否充足<br>更换发发射器电池 Check if the battery power is sufficient<br>Replace transmitter battery |
| 发射器一直闪红灯 Transmitter keeps flashing red | 急停未旋 Emergency stop unopen | 旋起急停 Press up the emergency to turn it up |
| 发射器闪绿灯，但接收器无动作 The transmitter blinks green, but the receiver no response | 接收器故障 Malfunction of receiver | 检查接收器是否正常通电<br>检查接收器与发射器编号是否一致 Check that the receiver is powered on normally<br>Check whether the serial number of the receiver and transmitter is consistent or not(need to matched one to one) |
| 有些按键没有动作 Some buttons do not work | 接收器故障 Malfunction of receiver | 检查接收器电缆线是否断开 Check if the cables of receiver is loose or disconnected |
| 启动后闪绿灯后一直闪红灯 Flashing green light after startup and then flashing red light | 智能芯片未识别 Intelligent key not recognized | 检查智能芯片是否安装正确 Check whether the Intelligent key is installed correctly |
| 发射器正常启动后，起重机会自动跳电 After the transmitter starts normally, the crane will automatically trip | 出现同频率干扰 same frequency interference | 更换智能芯片调开频率 Replace the Intelligent key |

## 5 . **安全须知** Safetyinstructions

### 5.1用途Purpose

WOCH无线遥控系统用来远程控制受控系统或受控设备，提升整个受控系统的操控的便利性和效率，提高操作人员的安全性。

Wireless remote control systems are used to remotely control controlled systems or devices, improving the convenience and efficiency of the entire controlled system's operation, and improving the safety of operators.

**警告信息**

**接收器内部带有高压部件，打开前请确保接收器电源已经断开。**

**在紧急情况下或者起重机，其他受控设备出现故障时，请立即按下发射器上的急停开关，系统进入安全状态。 禁止在传送人的设备上使用**

**禁止修改，移除和绕过无线系统中的安全回路；禁止对无线遥控系统整个急停回路中的任何一个部份进行改动。 无线无线遥控系统禁止在爆炸危险区域内使用**

**请勿同时使用2台或以上发射器同时操作同一台设备**

**请勿在同一个厂区使用同一个频率（或300米范围以内）避免互相干扰**

***Warning message***

***There are high-voltage components inside the receiver, please ensure that the power supply of the receiver has been disconnected before opening.***

***In emergency situations or when the crane or other controlled equipment malfunctions, please immediately press the emergency stop switch on the transmitter to enter a safe state of the system.***

***Prohibit use on the sender's device***

***Prohibit modification, removal, and bypass of safety circuits in wireless systems; It is prohibited to modify any part of the entire emergency stop circuit of the wireless remote control system.***

***The wireless remote control system is prohibited from being used in explosion hazardous areas***

***Do not use two or more transmitters simultaneously to operate the same device***

***Do not use the same frequency (or within a range of 300 meters) in the same factory area to avoid mutual interference***

# FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receivingantenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information
The device has been evaluated to meet general RF exposure requirement.
The device can be used in portable exposure condition, compliance with exposure requirements.